

Michael E. Nelson
(773) 484-5014
michael.nelson@fulbrightmail.org

EDUCATION

Michigan State University, East Lansing, MI
M.A., Media and Information
Aug 2015 – May 2017

North Park University, Chicago, IL
B.A., History, Summa Cum Laude
Aug 2007 – May 2011

PROFESSIONAL EXPERIENCE

Full Stack Development Consultant
School of Social Work, Michigan State University
Jan 2017 – present

- Developed a client-server system to support the data analysis tasks of researchers in the Michigan Stroke Transitions Trial (MISTT) project
- Wrote server-side logic (Python) to securely accept, preprocess, model, and persist Microsoft Excel and CSV uploads
- Associated uploaded data with Google Analytics data retrieved via HTTP with the google-api-python-client library (Python)
- Extracted from unstructured text data goals as feature matrices with pandas and SciPy (Python); performed k-means clustering analyses on the data with scikit-learn (Python)

Front End Developer
Matrix Center for Digital Humanities and Social Sciences
Feb 2017 – present

- Implemented responsive, mobile-first WordPress theming from design comps
- Developed HTML, CSS, and JavaScript components, and coordinated UI components with PHP controllers using asynchronous requests
- Worked with the CKEditor (WYSIWYG text editor for the web) API and various plugins to support the peer-review process on a scholarly communication platform
- Collaborated on version-controlled repositories (Subversion)

Graduate Research Assistant
Department of Media and Information, Michigan State University
Aug – Dec 2016

- Gathered data from Elsevier Scopus and Thomson Reuters Web of Knowledge
- Performed bibliometric and citation analyses using Pajek and networkx (Python)

Data Analyst and Research Assistant
Department of Advertising and P.R., Michigan State University
Oct 2015 – present

- Implemented the Affect Misattribution Procedure (AMP) and Taylor Aggression Paradigm (TAP) for use on the Web, as JavaScript apps atop the Qualtrics platform
- Administered collection of psychophysiological data with BIOPAC and AcqKnowledge, reaction-time data with DirectRT, and eye-tracking data with Tobii Pro Studio
- Cleaned and transformed psychophysiological signal data using pandas (Python), rendering data suitable for analysis in SPSS

Web Accessibility/Usability Intern
College of Arts and Letters, Michigan State University
Sep 2015 – May 2016

- Remediated websites and D2L learning management system (LMS) courseware for accessibility and usability
- Wrote technical reports on accessibility for College sub-unit decision-makers

GRANTS, FELLOWSHIPS, & AWARDS

Cultural Heritage Informatics Graduate Fellowship Cultural Heritage Informatics Initiative, Michigan State University	Aug 2016 – May 2017
Research Experience for Master's Students Graduate Fellowship School of Information, University of Michigan	May 2016 – Aug 2016
Thomas F. Baldwin Endowed Fellowship Department of Media and Information, Michigan State University	May 2016
M.A. Merit Scholarship Department of Media and Information, Michigan State University	May 2016
Fulbright English Teaching Assistantship to Poland Fulbright Program, U.S. Department of State	Sep 2011 – Jul 2012
Zenos and Barbara Hawkinson Prize for Best Paper in History Department of History, North Park University	Apr 2010
AmeriCorps Education Award Jumpstart for Young Children, Inc., Boston, MA	Sep 2009 – Jun 2010
Presidential Scholarship North Park University	Aug 2007 – May 2011

PERSONAL & FELLOWSHIP-FUNDED PROJECTS

Exploring Heritage Representation in CIDOC-CRM (Cultural Heritage Informatics Initiative)

- Developed a React.js application for exploring the CIDOC conceptual reference model (CRM), executing Sparql queries against the British Museum's Semantic Web Collection Online, and browsing graphs of RDF triples built with d3.js

Observing Consumer Behavior on Instagram (Independent)

- Developed a Universal Windows Platform (UWP) tablet application to simulate the Instagram user experience

The Future of Data-Related Publication (ICPSR and the University of Michigan iSchool)

- Gathered requirements (shadowing, semi-structured interviews) for a system to support improved bibliography comprehensiveness, usability, and ingestion processes at the Inter-university Consortium for Political and Social Research's (ICPSR)
- Modeled processes involved in maintaining ICPSR's bibliography of data-related publications in UML, in terms of actors, use cases, process inputs and outputs, and activities

The Changing Character of Digital Divides (The Quello Center, Michigan State University)

- Analyzed archival survey data for substantive shifts in responses about Internet usage (using SPSS 23.0)
- Analyzed survey instruments for methodological shifts in the study of Internet usage

CONFERENCE PAPERS, PRESENTATIONS, AND PUBLICATIONS

One peer-reviewed journal publication in the field of Internet studies, and eleven conference papers/posters and in the areas of social media advertising, health communication, cultural adaptation in advertising, business process analysis, accessibility and instruction, and digital divides

PROFESSIONAL TRAINING AND CERTIFICATIONS

Front-End Web Developer Nanodegree
Udacity.com, Mountain View, CA

Apr 2015

Paraprofessional Educator Endorsement (ELS-PARA)
Board of Education, State of Illinois

Apr 2015 – Jun 2020

KEY PROFESSIONAL SKILLS

Data analysis

- Network analysis with Pajek and networkx (Python)
- Tabular data analysis with SPSS and Microsoft Excel
- Network and tabular data wrangling with Microsoft Excel, pandas, NumPy, and SciPy (Python)
- Text data analysis and natural language processing with scikit-learn and nltk (Python)

Database design & development

- Relational data modeling in UML
- Data model implementation and normalization to third normal form in PostgreSQL and Microsoft Access

Web development

- Designing, developing, and securing server-side systems using the Flask Python web framework, and implementing data persistence using the SQLAlchemy ORM
- Building client-side systems with the Angular (1.x), jQuery, React.js, Knockout.js, and Prototype.js JavaScript frameworks
- Automating tasks (unit-testing, linting, etc.) with webpack, grunt, and gulp for ES5 or for transpiling to ES2015 (ES6)
- Deploying systems and assets on Heroku and Microsoft Azure

Communication

- Writing technical and business documentation used for training new hires, managing knowledge, and reporting to stakeholders; training interns and new hires
- Training researchers and other graduate students in data analytic and wrangling techniques (e.g., how to use pandas [Python] to render psychophysiological signal data suitable for analysis in SPSS)

KEY ACCOMPLISHMENTS

- Led development of a proof-of-concept web application for supporting the data analysis of the interdisciplinary team of researchers on the Michigan Stroke Transitions Trial (MISTT) project, and was subsequently asked by the team to consult on the project for further development
- Designed and implemented two JavaScript applications for measuring (between subject) aggression on Qualtrics, data from which are currently being used by an interdisciplinary Michigan State research team in pursuit of a NIH grant